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## Introduction

Babesiosis is a tick-borne disease caused by *Babesia microti*. We present a case of false positive HIV in the setting of confirmed babesiosis infection. An understanding that patients with babesiosis can have a false positive HIV test result is important in management decisions.

## Case Presentation

- A 46-year-old male presented with fever, headache, fatigue, and myalgia of 7 days duration and was found to have transaminitis and thrombocytopenia. A petechial rash was noted on lower extremities concerning for Rocky Mountain Spotted Fever (RMFS).
- Relevant laboratory results included a positive parasite smear for babesia with a 3% parasitemia load, positive mononucleosis screen, EBV and CMV IgM positive serologies, and positive HIV screen.
- With the low-likelihood that patient would have concurrent infection with EBV, CMV, and HIV and the fact that the patient reported being in a monogamous relationship with his wife for the past 10 years and denied HIV risk factors, made 3 concurrent viral infections less likely requiring further investigation.

## Case Continues...

- Treatment with atovaquone/azithromycin was started and doxycycline was continued awaiting anaplasmosis, RMSF and Lyme studies which ultimately came back negative. As parasitemia persisted at 3%, regimen was changed to quinine/clindamycin with good response.
- Confirmatory HIV multispot came back positive, however HIV RNA was negative, excluding acute retroviral syndrome. It was thought that the concurrent positive serologies were false positive test results due to babesiosis. These studies were repeated after the clearance of parasitemia was proven by negative parasite smear once treatment was completed; HIV Ab was non-reactive with undetected HIV RNA viral load and negative CMV IgG/IgM which confirmed our false positive theory.

Infection	Day 2	Day 60
EBV IgM	98.8	<36
EBV IgG	145	239
CMV IgM	103	<30
CMV IgG	<0.6	<0.60
HIV 1/HIV 2 Ab	Reactive	Non-reactive
Blood Parasite Smear	3% Parasitemia	0% Parasitemia
Pathology	Babesia microti	Negative for Babesia

## Discussion

HIV is a risk factor for babesiosis, and coinfection is common. However, there have been 3 reported cases of false positive HIV findings in patients with acute babesiosis to the best of our knowledge.

This case is unique in that our patient had confirmed babesiosis infection with three concurrent false-positive viral serologies.

Further study is needed to investigate this association. For now, we suggest that affected patients should undergo repeat confirmatory testing once parasitemia has cleared prior to determine if further treatment is required.

## References

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